

The Claims

Claims 1-17 (Canceled).

18. (Currently amended) A system as recited in claim ~~15~~30, wherein the image is a digital image.

19. (Currently amended) A system as recited in claim ~~15~~30, wherein the image is a digitized version of a film image.

20. (Currently amended) A system as recited in claim ~~15~~30, wherein the eye confirmation module is to determine, for each of the detected regions, whether the detected region is part of a human eye.

21. (Currently amended) A system as recited in claim ~~15~~30, wherein the system is implemented in a computer.

22. (Currently amended) A system as recited in claim ~~15~~30, wherein the system is implemented in a camera.

23. (Currently amended) A system as recited in claim ~~15~~30, wherein the system is implemented in an image printing device.

24. (Currently amended) A system as recited in claim ~~4530~~, further comprising:

a skin color module to detect areas of skin color in the image and indicate the detected areas to the region detection module; and

wherein the region detection module is to search within the detected areas to detect regions that include pixels of the particular one or more colors.

25. (Currently amended) A system as recited in claim ~~4530~~, wherein the eye confirmation module comprises an SVM (Support Vector Machine) classifier to classify each of the detected regions as either part of an eye or not part of an eye.

26. (Currently amended) A system as recited in claim ~~4530~~, wherein the eye confirmation module comprises a multi-scale classifier to apply a window to the image and compare pixels within the window to an eye template, to alter the scale of the image, and then to repeat the application of the window to the scale-altered image and comparison to the eye template.

27. (Canceled).

28. (Canceled).

29. (Currently amended) A system as recited in claim ~~28~~30, wherein the pixel grouper is further to group together pixels within a threshold distance of one another.

30. (Currently amended) A system ~~as recited in claim 28~~ comprising:
a region detection module to detect regions of an image that include pixels of a particular one or more colors, wherein the region detection module comprises:
a pixel identifier that is trained to colors associated with red-eye, and wherein the pixel identifier is to identify pixels within the region having colors that are close to the colors associated with red-eye;
a pixel grouper coupled to receive the identified pixels from the pixel identifier and group together adjacent pixels;
a filter to receive an indication of the groups of pixels from the pixel grouper and to identify, based on a set of rules, which of the groups are to be output to the eye confirmation module as detected regions; and
an eye confirmation module to receive the detected regions from the region detection module and identify, for each of the detected regions, whether the detected region is part of an eye.

31. (Original) A system as recited in claim 30, wherein one of the rules is: if greater than a threshold amount of pixels in the image are the particular one or more colors then none of the pixel groups are detected regions.

32. (Original) A system as recited in claim 30, wherein one of the rules is: if the group is a single pixel then the group is not a detected region.

33. (Original) A system as recited in claim 30, wherein one of the rules is: if the group is more rectangular than circular then the group is not a detected region.

34. (Original) A system as recited in claim 30, wherein one of the rules is: if the group has an aspect ratio substantially different from a circle then the group is not a detected region.

35. (Canceled).

36. (Canceled).

37. (Currently amended) A method as recited in claim 4835, wherein the receiving comprises receiving the image from a camera.

38. (Canceled).

39. (Currently amended) A method as recited in claim 4835, further comprising:

identifying areas within the image that are skin colored; and
using the identified areas as the set of areas.

40. (Canceled).

41. (Currently amended) A method as recited in claim 4835, further comprising for each pixel group in the set of one or more pixel groups, prior to classifying the pixel group:

identifying the geometric shape of the pixel group;

determining whether the geometric shape is similar to the shape of an eye;
and

leaving the pixel group as part of the set of one or more pixel groups if the geometric shape is similar to the shape of an eye, and otherwise removing the pixel group from the set.

42. (Currently amended) A method as recited in claim 41, wherein the shape is similar to the shape of an eye if ~~of~~ the geometric shape is more circular than rectangular and if an aspect ratio of the geometric shape differs from the aspect ratio of a circle by not greater than a particular amount.

43. (Currently amended) A method as recited in claim 4835, wherein the classifying comprises:

applying a window to the image and comparing pixels within the window to an eye template;

altering the scale of the image; and

repeating the applying and comparing based on the scale-altered image.

44. (Original) A method as recited in claim 43, wherein the repeating comprises repeating the applying and comparing based on the scale-altered image without altering the size of the eye template.

45. (Canceled).

46. (Currently amended) A method as recited in claim ~~48~~35, further comprising removing, based on a set of rules, groups from the set of one or more pixel groups.

47. (Canceled).

48. (Currently amended) A method comprising: as recited in claim 47
receiving an image;
searching a set of areas of the image for candidate pixels of one or more
colors, wherein the one or more colors comprise colors corresponding to red-eye;
combining the candidate pixels into a set of one or more pixel groups,
wherein the combining comprises combining candidate pixels into the same group
if the candidate pixels are adjacent one another;
for each pixel group in the set of one or more pixel groups, classifying the
pixel group as being part of an eye or not part of an eye;

checking whether flash was used in capturing the image, wherein checking whether flash was used in capturing the image comprises checking whether a flash used flag is set in a header corresponding to the image; and
performing the searching, combining, and classifying only if flash was used in capturing the image.

Claims 49-54 (Canceled).

55. (New) One or more computer readable media having stored thereon instructions that, when executed by one or more processors, causes the one or more processors to perform acts comprising:

receiving an image;

searching a set of areas of the image for candidate pixels of one or more colors, wherein the one or more colors comprise colors corresponding to red-eye;

combining the candidate pixels into a set of one or more pixel groups, wherein the combining comprises combining candidate pixels into the same group if the candidate pixels are adjacent one another;

for each pixel group in the set of one or more pixel groups, classifying the pixel group as being part of an eye or not part of an eye;

checking whether flash was used in capturing the image, wherein checking whether flash was used in capturing the image comprises checking whether a flash used flag is set in a header corresponding to the image; and

performing the searching, combining, and classifying only if flash was used in capturing the image.

56. (New) One or more computer readable media as recited in claim 55, wherein the receiving comprises receiving the image from a camera.

57. (New) One or more computer readable media as recited in claim 55, the instructions further causing the one or more processors to perform acts comprising:

identifying areas within the image that are skin colored; and
using the identified areas as the set of areas.

58. (New) One or more computer readable media as recited in claim 55, the instructions further causing the one or more processors to perform acts comprising:

for each pixel group in the set of one or more pixel groups, prior to classifying the pixel group:

identifying the geometric shape of the pixel group;

determining whether the geometric shape is similar to the shape of an eye; and

leaving the pixel group as part of the set of one or more pixel groups if the geometric shape is similar to the shape of an eye, and otherwise removing the pixel group from the set.

59. (New) One or more computer readable media as recited in claim 58, wherein the shape is similar to the shape of an eye if the geometric shape is more circular than rectangular and if an aspect ratio of the geometric shape differs from the aspect ratio of a circle by not greater than a particular amount.

60. (New) One or more computer readable media as recited in claim 55, wherein the classifying comprises:

applying a window to the image and comparing pixels within the window to an eye template;

altering the scale of the image; and

repeating the applying and comparing based on the scale-altered image.

61. (New) One or more computer readable media as recited in claim 60, wherein the repeating comprises repeating the applying and comparing based on the scale-altered image without altering the size of the eye template.

62. (New) One or more computer readable media as recited in claim 55, the instructions further causing the one or more processors to perform acts comprising removing, based on a set of rules, groups from the set of one or more pixel groups.